trolytes (Walker and Kendall). The results in all cases confirm the assumption that the correction thus applied is valid and complete.

Extremes of Adaptation in Carnivorous Dinosaurs, Tyrannosaurs and Ornithominius: HENRY FAIRFIELD OSBORN.

Complete skeletons of two of the most remarkable types of carnivorous dinosaurs, *Tyrannosaurus* and *Ornithominius*, are mounted and exhibited especially at this meeting of the academy. Dr. Osborn will describe the two extremes of carnivorous dinosaur adaptation which they respectively represent.

Influence of Certain Minerals on the Development of Schists and Gneisses: C. K. LEITH. (Introduced by C. R. VAN HISE.)

A brief account of the development of quantitative methods in the study of the metamorphic cycle, leading up to a consideration of the formation of schists and gneisses. Evidence is presented to show that the development of schists and gneisses means convergence to a few mineral types, and that the characteristics of a few minerals determine to a large extent the course of chemical, mineralogical and textural changes in dynamic metamorphism.

Sculpture of the Mission Range, Montana: W. M. DAVIS.

The Mission Range, one of the smaller members of the Rocky Mountains in western Montana, composed of deformed rocks, chiefly quartzites, has the appearance of a tilted and dissected fault block, trending north and south, about 70 miles in length. The steeper face, probably representing the battered fault scarp, looks to the west. The low northern crest of the range emerges from the glacial deposits that floor the surrounding intermont depression at an altitude of 3,000 feet, and rises slowly southward with moderate undulation to an altitude of 9,500 feet near its abrupt southern end. The eastern side of the range is said to slope more gently than the steep western face. The present features of the range due to erosion since uplift, as seen from the intermont depression on the west, may be divided into three oblique belts by two nearly parallel south-dipping planes, about 1,000 feet apart. The middle belt has smoothly-rounded summits, and full-bodied, large-textured, waste-covered spurs of mature normal degradation between wide-spaced, steep-pitching, consequent valleys. The upper and southernmost belt includes, besides the rounded, waste-covered forms of normal erosion, bare-walled cirques and troughs of local glaciation in more than a score of its high-reaching valleys; these features are best developed at the high southern end of the range, where the crest is locally sharpened into Alpine arêtes, and where the troughs, encroaching most broadly on the intervening spurs, reach down to the mountain base; at the middle of the range where its height is less, the cirques are faintly developed and the troughs extend only a few hundred feet down these valleys. The lower and northernmost belt shows many crags and knobs, cliffs and ledges, channels and hollows due to erosion by a broad and overwhelming glacier of Canadian origin. The northern half of this belt, or roughly, the northernmost fourth of the range, lies entirely beneath the slanting limit of Canadian glacial action, and is of disorderly form to its crest; the northernmost knobs, more or less detached from one another, rise hardly a hundred feet above the gravel plain: the southern half of the belt, in the second fourth of the range, preserves rounded normal forms along its crest and lower and lower down on its flanks as mid-range-length is approached; its valleys are barred across by morainic embankments along the slanting limit of the Canadian glacial action, and its spurs are imperfectly truncated in rugged facets which descend abruptly into Flathead lake. The height of the facets and the altitude of the embankments decrease southward; the facets become smaller and less continuous; the embankments become longer, larger and more continuous, until, curving away from the range base they unite in a noble terminal moraine, 400 or 500 feet in height and a mile or more in breadth, which swings westward across the intermont depression, separating Flathead lake on its northern concave side from the Mission plains of earlier glaciation on its southern, convex side. As far as I have seen and read, the Mission range is unique in its systematic tripartite arrangement of normal and glacial features.

Crystallization of Quartz Veins: WALDEMAR LINDGREN.

The Minor Constituents of Meteorites: GEORGE P. MERRILL. (Introduced by A. L. DAY.)

A Peculiar Clay from near the City of Mexico: E. W. HILGARD.

KARL EUGEN GUTHE

AT the first meeting of the year the president of the Research Club of the University of Michigan read the following words of appreciation of the late Professor Guthe:

It is very fitting at this meeting, the first of the Research Club since the death of one of its specially honored members, Karl Eugen Guthe, that some words of appreciation should be spoken and I know well that in what I shall say now I shall have the hearty consent and sympathy of the whole club.

Sixteen years—1893 to 1903[1] and 1909 to 1915—a teacher in the university, nine years an active member of this club, and three years the dean of the graduate school, Dr. Guthe won for himself an unusually general and unusually cordial respect. His fine character, his high ideals, his constant loyalty to careful scholarship and scientific research made him a man whom it has been a benefit to us all to have known and to whom the university in its work as an educational institution and in its larger life, where the man as well as the teacher and officer makes himself felt, is indebted greatly.

It is pleasant to remember Dr. Guthe's last paper before the Research Club, read at the Roger Bacon memorial meeting in April, 1914; a paper on Bacon as a scientist that was a model of conscientious study and critical statement.

It is pleasant, too, to remember how seriously and faithfully he applied himself to the newly organized graduate school, seeking to put it and all its opportunities to the real service of productive study. What he accomplished, moreover, has given the school a most valuable foundation.

And, again, it is pleasant to remember in these days of national and racial differences, when so many are carried away by their partisan feeling, that although often at variance with the opinions and sympathies of many of his friends he neither gave offense to any nor took offense; and this, quite without sacrifice of his independence. He did indeed show, as too few have shown, how science and its methods, its ideals and its purposes, may give men integrity and poise; winning for himself and his views the respect that with his sense of fairness he was so ready to accord to others and to their views.

A true scholar, a faithful and efficient officer, and a most genial friend, Dr. Guthe was one whom we are glad to have had among us and whose memory we may well cherish.

SCIENTIFIC NOTES AND NEWS

A CABLEGRAM from Copenhagen to the daily papers, the correctness of which is open to question, states that the Swedish government will award the Nobel prize in physics to Thomas A. Edison and Nikola Tesla; and in chemistry to Professor Theodor Svedberg.

PROFESSOR ADOLF VON BAEYER celebrated his eightieth birthday on October 31. With the beginning of the present semester he retired from the chair of chemistry at Munich in which he succeeded von Liebig in 1875.

PROFESSOR EDUARD BRÜCKNER has been elected president and Professor Eugen Oberhummer vice-president of the Vienna Geographical Society.

DR. DAVID W. CHEEVER, of Boston; Dr. Wilfred T. Grenfell, of Labrador; Dr. Stephen Smith, of New York; and Dr. Lewis McL. Tiffany, of Baltimore, were elected honorary fellows of the American College of Surgeons at its recent Boston meeting.

ON the occasion of the dedication of the Elizabeth Steel Magee Hospital the University of Pittsburgh conferred its doctorate of laws on Dr. John W. Williams, dean of the Johns Hopkins Medical School; Dr. Barton Cooke Hirst, professor of obstetrics, University of Pennsylvania; and on Dr. Walter William Chipman, professor of obstetrics and gynecology, McGill University.

PROFESSOR HENRY S. JACOBY, of the college of civil engineering, Cornell University, has been elected president of the Society for the Promotion of Engineering Education for the year 1915–16.

PROFESSOR A. H. WHITE has considered it necessary, owing to reasons of health, to resign the chair of pathology in the school of the Royal College of Surgeons in Ireland, which he has held for the last seventeen years.

DR. JOHN CASPER BRANNER, whose resignation of the presidency of Stanford University has been accepted to take effect December 31, will retire on a Carnegie pension and will continue to live on the Stanford campus. He will maintain an office in the university, in accordance with the trustees' invitation, and immediately after his retirement will be occupied for some time in a revision of two of his books, each of which is about to be published in a third edition—his Portuguese

[1] 1903–1905 Dean Guthe was in the Bureau of Standards, Washington, D. C., and 1905–1909 he was professor of physics in the University of Iowa.